

Remarks

This amendment is responsive to the official action mailed June 26, 2007, and is accompanied by an extension under 37 C.F.R. §1.136(a) and the required official fee.

In the official action, claims 1-15 were rejected under 35 U.S.C. §101 on grounds of "same invention" double patenting over US Pat. 6,920,822. Reconsideration and withdrawal of the rejection are requested. Consistent with the comments of the Examiner in the official action, the claims as presented in the present application and the claims in the issued patent are not the same. Therefore, a same invention double patenting rejection is unwarranted. Moreover, claims 1 and 16 have been amended to more particularly and distinctly define the subject matter of the invention and to better distinguish over the prior art.

As recognized in the official action, the claims presented in the present application are directed to an "object," whereas the claims of the '822 patent are directed to a "can." According to the examiner, a can is an object and as a result, the identical subject matter is claimed in the present application as in the patent. This logic cannot stand up to scrutiny.

A can may be an object, but the term "object" is broader than the term "can," and might apply to various "objects" other than cans. As a result, the scope of the claims is different. It is not logical or proper to base a same invention double patenting rejection on a finding that the scope of the claims in a pending application is broad enough to encompass all that is within the scope of the claims in the previous patent, if (as is now the case), the claims in the application are broader than the claims of the patent and also encompass other subject matter. It is accepted practice, and not grounds for a same invention double patenting rejection, for an applicant to seek allowance in a subsequent patent of claims that omit a limitation that was set forth in the previous case but which limitation is not considered necessary by the applicant to distinguish over the prior art.

For these reasons, the same invention double patenting rejection is unwarranted and should be withdrawn.

The terms "object" or "can" appear in the preambles of the respective claims. Even assuming that terms in the preamble are not limiting, the rejection under Section 101 has been overcome, in the alternative, by amendment of claim 1. Method claim 16 has also been amended (although claim 16 was not subject to the Section 101 rejection). Claim 1 as now amended more particularly and distinctly defines the invention, with a scope that is broader in some respects than the claims of the '822 patent (such as "object" versus "can") and is narrower in other respects than the claims of the patent. This amendment obviates the double patent rejection in that respect as well. The claims are amended such that rejections for obviousness over the prior art and/or obviousness-type double patenting are likewise unwarranted.

Claims 1-3, 5-9 and 11-20 were rejected under 35 U.S.C. §103 over a combination of Williams (5,799,574) and Granzow (5,677,719). Claims 4 and 10 were rejected over that combination in further view of alleged admitted prior art. Reconsideration is requested.

The claims as amended are directed to an apparatus comprising digital print heads. Digital print heads are disclosed, for example, at page 6 of the application. (See the end of paragraph [0020]). Digital print heads are recited in apparatus claim 1 and are found in method claim 16.

The official action does not assert that either Williams or Granzow would constitute a bar to novelty. As pointed out at page 3, lines 9 to 11 of the Office Action, Williams fails to teach digitally controlled print heads. Granzow is cited as teaching "conventional controlled ink print heads which are digitally controlled."

Reconsideration is requested in view of the claims as amended. The differences between the invention and the prior art are such that the subject matter claimed as a whole is not shown to have been known or obvious.

The proposed combination comprising digitally controlled print heads is not simply a matter of replacing the structure and function of an analog circuit with digital elements. A digital circuit as provided in applicant's disclosure, and as defined in the claims, can improve a coarse transfer of graphics to produce a more clean and definite image. Moreover, applicant's technique is more than routinely adding resolution in the

sense of providing more pixel dots per unit area by operating at a higher frequency or slower feed rate. In fact, a person of ordinary skill would routinely expect that digital print head operation involves a dot resolution that is a direct function of the operational frequency and sheet-feed speed. In that case, the quality of the reproduction may be considered an inherent and invariable result of the resolution.

As a result, if other things are equal, namely frequency of operation and the feed speed of the sheet or other surface, one cannot predict or routinely expect an improvement in print quality from changing analog-driven print heads to digital ones, per se. The frequency of operation produces a dot per dot pitch that is predetermined and at that frequency and feed speed, one would predict that the print quality cannot be enhanced.

Assuming for example, a given arbitrary frequency and a given sheet speed, the dot resolution is a mathematical given result. One might change the sheet feed rate to change the resolution. Higher speed decreases resolution by producing a greater pixel spacing or pitch, slower speed increases such resolution. What is desirable, however, and provided according to applicant's claimed invention, is to provide a way to achieve both high resolution and high speed.

According to the claimed invention, plural print heads are provided, located at different places on the feed path and operated digitally in coordination. Taking more print heads than just one (e.g., ink jets), spacing them around the blanket cylinder 20 (the path, see claim 2), and controlling them digitally, provides an unpredicted result: Although each printing head has a given resolution resulting from operational speed and frequency, the dots applied by plural print heads can add up to produce a better resolution than the resolution that is determined for the printing heads individually, namely the resolution that results from the given print head operational frequency and the given rate of advance of the sheet (e.g., such as a can to be printed or another object to receive the ink, such as a transfer blanket, etc.). The resolution provided by each printing head may be fixed, but the resolution of plural digitally controlled print heads produces a higher resolution after the receiving surface passes two or more of the print heads around the path.

In one example, applicant may employ six print heads for each separate color around the circumference defined by the path of the blanket. Although the print heads each have a given resolution, the six can be offset in space and/or time so that the dot spacing is up to six times finer than is possible with a single head per color.

The invention is neither disclosed nor suggested by the prior art. There is no basis of record to believe that the person of ordinary skill might predict any improvement in resolution, or any other positive result, from adding print heads around the path of the item or its graphics transfer blanket.

There is no suggestion of the invention or any comparable route for development in Williams, see e.g., Fig. 1, items 18, 20, 22 and col. 2, lines 23, and 64 to 67. There is no articulated reasoning for how one might apply any particular part of Granzow with any expectation of success. There is particularly no basis to expect a successful result such as improved resolution from a combination of Williams with Granzow and subsequent modification by adding seemingly redundant print head. There is no basis to conclude that the invention would be obvious.

The foregoing considerations apply to apparatus claim 1 and to method claim 16. The claims as amended are in proper form. The differences between the invention claimed as a whole and the prior art of record are such that the subject matter claimed, as a whole, is not shown to have been known or obvious.

Reconsideration and allowance of claims 1-20 are requested.

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